

1. Surface water produced from the Colorado River
2. Groundwater produced from shallow wells from the Big Sandy River alluvial aquifer
3. “Joint” use of water from the Phelps Dodge Bagdad pipeline carrying shallow groundwater

Procurement of an allocation of Colorado River water for this Project is impracticable. Groundwater from the Big Sandy River alluvial aquifer is not viable due to concerns regarding existing water users and the need to protect riparian habitat downstream from the Project.

The design concept associated with the “joint” use of water from the Phelps Dodge water pipeline would be to use the water for “once-through” cooling. This process would require about 44,000 acre-feet per year in order to dissipate the amount of heat generated by the project (URS Technical Memorandum, May 7, 2001). This volume of water is not available from the Phelps Dodge water supply wells.

2.4.4 Water for Agricultural Use

The following two alternatives for providing water for agricultural use were considered:

- using cooling tower blowdown
- using stormwater runoff

If cooling tower blowdown were used, water would be recycled through the cooling tower a fewer number of times, in order to limit the concentration of dissolved solids to a level that could be used for irrigation. Calculations were performed to compare the amount of water that would be needed if this alternative were implemented. Results showed that this alternative would require the use of approximately 100 gpm more than the Proposed Action. In addition, the alternative would introduce the potential for cooling tower chemicals (e.g., algacides) to be present in the irrigation water. For these reasons, an alternative

that would use cooling tower blowdown for agricultural use was eliminated from further consideration.

The potential use of stormwater as irrigation water also was examined. This alternative was not carried forward for further consideration because it was not feasible to ensure that the water supply needed to sustain crops would be available at the time it was needed, since storms are sporadic and unpredictable. Storage capacity would be required, but it would not be possible to guarantee that the supply in storage would be sufficient to meet the agricultural needs. Also, this would involve additional environmental impacts related to construction of the storage and delivery system. For these reasons, this was not selected as an alternative.

2.4.5 Power Plant Cooling

Initial consideration was given to three conventional types of cooling technology for use at the Big Sandy Energy Project: wet cooling, dry cooling, and a hybrid cooling technology partially wet and dry. The potential impacts on the facility’s ability to provide competitively priced electricity was a factor in considering the viability of these alternatives.

Under the Proposed Action, deep aquifer groundwater would be used as the water source for the wet-cooled facility. An average of about 3,200 acre-feet of groundwater (4,200 acre-feet maximum) is expected to be consumed annually for cooling and operational purposes.

The wet cooling technology requires cooling towers, which would use both mechanical and evaporative cooling mechanisms to condense the process steam.

In comparison, the dry cooling technology would condense the process steam essentially using the same technology as an automobile radiator. This alternative would reduce water usage by about an average of 3,000 acre-feet per year (4,000 acre-feet per year maximum).

A simple analysis prepared to consider the dry cooling alternative determined that, although technically feasible, dry cooling results in substantial additional cost and reduced plant output. Because the greatest reduction to the power plant output would occur during the hottest part of each day, which would coincide with the periods of greatest electrical demand, and (potentially) the greatest price per kilowatt hour, the overall economic impact of dry cooling was substantial. The capital and operating costs of dry cooling relative to wet cooling would represent an additional cost (including lost revenue) to Caithness of about \$26 to \$28 million over the life of the Project (URS Technical Memorandum, May 7, 2001). This makes this alternative not economically feasible and does not meet Caithness' need to provide competitively priced electrical energy.

Hybrid wet-dry cooling towers are commonly used in applications that require abatement of the condensed water plume. The plume abatement feature is normally used only where icing or fogging is a concern such as in colder climates with higher relative humidity typical of the northeastern United States or when a facility is located within extremely close proximity to a highway (i.e., less than 200 feet away). The annual difference in water usage for a hybrid cooling system would be about 600 acre-feet less than a wet cooling system. The initial cost of the hybrid wet-dry cooling system would result in an increase in capital expenditures of about \$5 to \$6 million, thereby increasing the cost of electricity to consumers. Although this possible alternative also would be technically feasible, plume abatement is not required at this site, and the alternative would not be cost-effective.

2.4.6 Wikieup Gas Tap

The possibility of adding a gas tap to the proposed gas pipeline at a location near Wikieup was raised during public scoping. This alternative was considered but eliminated from further analysis because the decision to do this lies with the local gas distribution company, not the pipeline owner and is not reasonably

foreseeable. The local gas distribution company could evaluate the economics of providing such a tap and could approach the pipeline owner about adding such a gas tap in the future, if a decision is made by a gas distribution company to pursue this option.

Affected Environment	Proposed Action	Alternative R Gas Pipeline Corridor	Alternative T Gas Pipeline Corridor	No Action
Air Resources	<p>Power Plant</p> <ul style="list-style-type: none"> Power plant operation would result in the release of various pollutants, but there would be no significant impacts from the operation with implementation of the pollution control measures and devices included in the Proposed Action. The analysis indicates no exceedances of any National Ambient Air Quality Standards or maximum allowable Prevention of Significant Deterioration increments; no exceedances of thresholds in the Arizona Ambient Air Quality Guidelines for hazardous air pollutants; no unacceptable or discernable impairment to visibility in nearby Class I, selected Class II, or Hualapai tribal lands; and no unacceptable levels of nitrogen or sulfur in areas where AQRVs were required to be reviewed. <p>All Elements</p> <ul style="list-style-type: none"> Construction activities in all locations would result in release of particulates and exhaust gases, but effects would be short term and would occur over a small area at one given time, resulting in a minor level of impact. Dust control measures included in the Proposed Action would help limit impacts to less than significant levels. <p><u>Conclusion:</u> No significant impacts are expected with implementation of proposed actions to reduce or prevent adverse impacts.</p>	Same as Proposed Action	Same as Proposed Action	No impacts
Geology/	All Elements – Geology	Geology – Same as	Geology –Same as	No impacts

Affected Environment	Proposed Action	Alternative R Gas Pipeline Corridor	Alternative T Gas Pipeline Corridor	No Action
Paleontology	<ul style="list-style-type: none"> There would be no significant impacts on areas of regional geological importance (none is present). There would be no impacts on substantial known potential mineral resource development areas (none is present). No impacts are expected on existing mining operations. There would be an insignificant loss of a small portion of the valley's sand and gravel resources. No substantial increase in impacts from earthquakes would be expected as long as structures comply with appropriate standard procedures. No substantial increase in magnitude of mass movements would occur since cut and fill areas would be engineered to ensure stability. Groundwater withdrawal would not result in land subsidence because it would be isolated to a volcanic aquifer and should not result in sediment compaction and/or significant drop in levels in overlying aquifers. <p>All Elements – Paleontology No impact would be expected as long as mitigation is included during construction to identify and protect previously unidentified fossil localities.</p> <p><u>Conclusion</u>: No significant impacts are expected with implementation of proposed actions to reduce or prevent adverse impacts, with the addition of mitigation to protect unidentified fossil localities during construction.</p>	<p>Proposed Action</p> <p>Paleontology-Same as Proposed Action</p>	<p>Proposed Action</p> <p>Paleontology-No impacts would be expected as long as additional surveys are conducted should the eastern portion of corridor segment T5 be selected for the final alignment, and the same provisions as listed under the Proposed Action are followed.</p>	

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Affected Environment	Proposed Action	Alternative R Gas Pipeline Corridor	Alternative T Gas Pipeline Corridor	No Action
Soils	<p>All Elements</p> <ul style="list-style-type: none"> Any proposed ground disturbance would result in disruption of soils and potential soil erosion, compaction, reduced productivity, and/or loss of topsoil. The Proposed Action would involve disturbance of about 621 acres of land surface, of which 229 acres would be permanently disturbed. Implementation of the proposed reclamation plans and erosion control measures, plus other measures such as limiting grading and access road building, and use of the directional drilling option, would reduce impacts to less than significant levels. With implementation of the proposed Stormwater Pollution Prevention Plan and provisions for surface water diversion at the power plant site, no significant impacts would result from stormwater runoff. There would be no significant adverse impacts associated with the installation of the optical ground wire, since the ground disturbance at the pulling and tensioning sites would be minimal, on areas already disturbed, and subject to reclamation and erosion control measures. <p>Pipeline</p> <ul style="list-style-type: none"> The potential for significant impacts exists where highly erodible soils coincide with steep slopes (greater than 20 percent). These locations would be avoided during siting of the final alignment and/or be adequately mitigated, such that impacts would be reduced to less than significant levels. (There are four such areas located in corridor segments R1, C3, T4, and the 	Same as Proposed Action, except that areas of steep slope plus erodible soils could more easily be avoided.	Same as Proposed Action; contains some areas along corridor segments T2, T3, and C1 where it may be difficult to avoid areas of steep slopes and erodible soils. This route also may cross exposures of soils that uniquely support the Arizona cliffrose. Mitigation includes measures to avoid impacts on this plant species.	The 26 acres of soil disturbed for construction of the production and monitoring wells used during testing and associated well pads and access roads would remain.

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	<p>T2-T3-C1 interchange. The area in the intersection of corridor segments T2, C1, and T3 would be the most difficult to avoid, since it appears to extend across the entire corridor.)</p> <p><u>Conclusion:</u> No significant impacts are expected with implementation of proposed actions to reduce or prevent adverse impacts.</p>			
Groundwater	<p>Power Plant and Associated Facilities</p> <p><i>Groundwater Quantity</i></p> <ul style="list-style-type: none"> Groundwater modeling conducted for this Draft EIS predicted that without flow augmentation, water levels in the shallow groundwater could drop by less than 1 foot, and surface water could be reduced. However, the Proposed Action contains measures designed to monitor groundwater levels and provide water to augment shallow groundwater and surface water flows in the Big Sandy River sufficient to prevent changes to these hydrologic systems which may otherwise occur as a result of the Project. Therefore, no changes to shallow groundwater levels or surface water flows in the Big Sandy River are predicted as a result of the Project. There likely would be a reduction and eventual elimination of water discharged from Cofer Hot Spring. The Proposed Action includes measures to provide compensation to the landowner; however, the loss of the spring would be considered a significant impact. <p><i>Groundwater Quality</i></p> <ul style="list-style-type: none"> No significant impacts from the Proposed 	Same as Proposed Action	Same as Proposed Action	The groundwater production and monitoring wells used to identify and test the lower aquifer would remain.

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	<p>Action are expected, given the construction of the evaporation ponds and lack of other sources of groundwater contamination associated with the proposed Project.</p> <p>Pipeline and Communication Facilities</p> <ul style="list-style-type: none"> No impacts on groundwater quality or quantity would be expected from these Project elements. <p><u>Conclusion:</u> The loss of Cofer Hot Spring would be a significant adverse impact. With the implementation of the actions proposed to reduce or prevent adverse impacts and other mitigation, no other significant impacts would be expected.</p>	<p><u>Conclusion:</u> Same as Proposed Action</p>	<p><u>Conclusion:</u> Same as Proposed Action</p>	
Surface Water	<p>Power Plant and Associated Facilities</p> <p>Surface Water Flows</p> <ul style="list-style-type: none"> Groundwater modeling conducted for this Draft EIS predicted that without flow augmentation, water levels in the shallow groundwater could drop by less than 1 foot, and surface water could be reduced. However, the Proposed Action contains measures designed to monitor groundwater levels and provide water to augment shallow groundwater and surface water flows in the Big Sandy River sufficient to prevent changes to these hydrologic systems which may otherwise occur as a result of the Project. Therefore, no changes to shallow groundwater levels or surface water flows in the Big Sandy River are predicted as a result of the Project. <p>Surface Water Quality</p> <ul style="list-style-type: none"> The power plant would be a zero discharge facility with no significant impacts on surface 	Same as Proposed Action	Same as Proposed Action	No impacts

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	<p>water quality. Onsite stormwater generation would be collected and routed to lined evaporation ponds. Offsite stormwater would be routed around the facility and returned to natural drainages using standard erosion control structures.</p> <ul style="list-style-type: none"> Agricultural activities should not have a significant impact on surface water quality of the Big Sandy River basin or downstream watercourses. The agricultural area would be operated in a fashion that minimizes the potential for runoff of irrigation water, applied chemicals, and fine-grained soils to surface waters. <p>Surface Water Rights</p> <ul style="list-style-type: none"> Owners of surface water rights along the Big Sandy River downstream of Granite Gorge would not be impacted because no reduction in surface water flow is predicted. <p>Pipeline and Access Road</p> <ul style="list-style-type: none"> Construction of the pipeline and access road across washes or the Big Sandy River likely would cause a temporary, minor, less than significant impact on surface water quality, including increased sedimentation and turbidity with implementation of proposed construction practices and erosion and sedimentation control measures. Special procedures are included in the Proposed Action to minimize impacts of the pipeline crossing caused by trenching on the Big Sandy River. Directional drilling under the Big Sandy River would further minimize or 			

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	<p>eliminate these water quality impacts.</p> <p><u>Conclusion:</u> No significant impacts are expected with the implementation of proposed actions to reduce or prevent adverse impacts and mitigation.</p>			
Floodplains	<p>Power Plant and Associated Facilities</p> <ul style="list-style-type: none"> Since the proposed power plant and associated facilities are located outside the 100-and 500-year floodplain zone, no impacts are predicted. Culverts installed along the proposed access road would allow for adequate flows under the road; no significant impacts on floodplains are predicted. Impacts to floodplains along the optical ground wire route would be eliminated because the area needed for pulling/tensioning sites is small and floodplains could be avoided. <p>Pipeline</p> <ul style="list-style-type: none"> The pipeline would cross numerous 100-year floodplains; actual total would depend on final alignment selected within corridor. Temporary disturbance of these floodplains and downstream areas would occur during pipeline installation. With the implementation of proposed erosion and sedimentation control measures, impacts would be reduced to minor, insignificant levels. If the directional drilling option were selected for crossing the Big Sandy River, adverse impacts would be further minimized or eliminated. <p><u>Conclusion:</u> No significant impacts are expected</p>	<p>All Elements-Same as Proposed Action; possibly would have more floodplain crossings.</p> <p><u>Conclusion:</u> Same as Proposed Action</p>	<p>All Elements-Same as Proposed Action; possibly would have fewer floodplain crossings; directional drilling under the Big Sandy River would not be an option.</p> <p><u>Conclusion:</u> Same as Proposed Action without</p>	No impacts

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	with the implementation of proposed actions to reduce or prevent adverse impacts.		the directional drilling option	
Land Use and Access	<p>Power Plant and Associated Facilities</p> <ul style="list-style-type: none"> No significant adverse land use impacts would be expected, since there would be conformance with existing zoning, County land use plans, and County transportation planning, and no impacts are expected on residences or businesses. <p>Pipeline</p> <ul style="list-style-type: none"> The proposed pipeline would generally follow existing utility corridor and road rights-of-way. Several residences and businesses are located along these routes, especially fronting the road rights-of-way. Any potential conflict with existing residences or businesses could be avoided by adjusting the final alignment within the proposed corridor to avoid these uses or by providing compensation. Also, potential impacts to the Carrow-Stephens ACEC could be avoided. Construction adjacent to any residence or business is completed within three to five workdays, and impacts would not be considered significant. <p>Communication Facilities</p> <ul style="list-style-type: none"> Primary communication facilities would be located within the plant site and on existing facilities, causing no adverse impacts to land uses. The optical ground wire option, if installed, would occur within existing right-of-way and on existing transmission line structures, and involve only short-term and limited disturbance; therefore, no adverse impacts to 	Similar to Proposed Action, but with possibly more potential conflict with use of roads being used or followed. Also, there is more potential for conflict with residences and use of the ACEC along Segment R4 and less space to make adjustments within Segments R2 and R3.	Similar to Proposed Action, but with possibly more difficult access and installation along Segment T5, due to rugged topography. However, there would be fewer residences and businesses to avoid and there would be no potential conflicts with road use during construction.	No impacts

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	<p>land use would be expected.</p> <p><u>Conclusion:</u> No significant impacts are expected with the implementation of proposed actions to reduce or prevent adverse impacts.</p>	<p><u>Conclusion:</u> Same as Proposed Action but with slightly higher potential for conflicts with existing residences and businesses near roadways</p>	<p><u>Conclusion:</u> Same as Proposed Action, but with slightly less potential for conflicts with residences and businesses primarily due to use of Segment T5</p>	
Grazing Management	<p>Power Plant and Associated Facilities</p> <ul style="list-style-type: none"> To avoid significant impacts from the loss of flow from Cofer Hot Spring, the Proposed Action would provide compensation by replacing the lost stock water using shallow well water. Land available for grazing would be permanently reduced by the forage available for grazing by about one cow and calf for four months. This is a small reduction in forage availability (about 1 percent) and does not constitute a significant impact on livestock production. The Proposed Action includes measures to maintain all range improvements, thereby avoiding significant impacts from loss or damage to these improvements. <p>Pipeline</p> <ul style="list-style-type: none"> Actions included in Proposed Action would ensure that any range improvement facilities would be maintained during pipeline construction. Livestock production on land crossed by the pipeline would not be significantly impacted by construction activities because only 48 acres would be permanently disturbed, and the 	<p>All Elements</p> <p>Similar to Proposed Action, except that pipeline construction would permanently disturb 47 acres.</p>	<p>All Elements</p> <p>Similar to Proposed Action, except that pipeline construction would permanently disturb 45 acres.</p>	<p>The 26 acres of grazing lands already disturbed for construction of the production and monitoring wells constructed for testing the groundwater aquifers, and the well pads, and well access roads would remain disturbed.</p>

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	<p>reseeding done per the proposed reclamation plans would restore forage production on other disturbed land.</p> <ul style="list-style-type: none"> No significant land disturbance would be expected on BLM grazing allotments along the pipeline during construction. <p><u>Conclusion:</u> No significant impacts are expected with the implementation of proposed actions to reduce or prevent adverse impacts.</p>	<p><u>Conclusion:</u> Same as Proposed Action</p>	<p><u>Conclusion:</u> Same as Proposed Action</p>	
Recreation, Wilderness, and Visual Resources	<p>All Elements</p> <ul style="list-style-type: none"> Impacts on recreation resources and wildernesses would be low and less than significant over the life of the Project, since there would be a relatively small increase in population and no discernible impacts to visibility in wilderness areas included in the analysis. Permanent effects on visual resources would be noticeable to co-dominant for the power plant, due to the surface disturbance, introduction of additional industrial facilities into foothill landscapes, intermittent water vapor plumes, and night lighting. Impacts would be low to moderate and less than significant after the application of measures to reduce impacts and due to the presence of a BLM-designated utility corridor. <p>Pipeline</p> <ul style="list-style-type: none"> The pipeline would result in low to moderate impacts, since it would generally follow existing rights-of-way with roads and transmission lines, which would reduce the effect of the intrusion of 	<p>Same as Proposed Action, but with more impacts on viewers (residents and travelers) along roads during pipeline construction.</p>	<p>Same as Proposed Action, but with more impacts on viewers along the path of transmission lines during pipeline construction.</p>	<p>No impacts</p>

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	<p>the pipeline into the landscape. Also, application of reclamation measures would reduce the visual contrast of the pipeline with the surroundings. Short-term impacts would result from the visibility of equipment and dust related to the construction process, especially in view of populated areas. These impacts would be reduced by dust control measures included in the Proposed Action and would be moderate and less than significant.</p> <p><u>Conclusion:</u> No significant impacts are expected with the implementation of proposed actions to reduce or prevent adverse impacts</p>			
Areas of Critical Environmental Concern	<p>Carrow-Stephens Ranches Area of Critical Environmental Concern (ACEC) <i>Pipeline (Corridor Segment T4)</i></p> <ul style="list-style-type: none"> An alignment within the corridor to avoid the ACEC would reduce impacts to less than significant. An alignment within the ACEC would require the removal of native plants, which is not consistent with BLM Prescription 10 and would result in a significant impact. <p><i>Communication Facilities</i></p> <ul style="list-style-type: none"> An optical ground wire installation pad may be required within the ACEC. One pad may result a small amount of land disturbance within an existing transmission line right-of-way, away from vegetation, and Section 106 protection provisions would apply, thus limiting impacts to low and less than significant levels. <p>Three Rivers Riparian ACEC <i>Power Plant and Associated Facilities</i></p>	Corridor segment R4 crosses the ACEC where the ACEC cannot be avoided. If the pipeline is not placed within the US 93 right-of-way, significant impacts would occur because of the proximity of the pipeline to historic buildings, the cemetery, and inconsistency with the BLM objectives for the ACEC. Any direct impact on graves would be a significant impact. Also, the removal of vegetation within the ACEC would be a significant impact, even with reclamation.	Same as Proposed Action	No impacts

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	<ul style="list-style-type: none"> Groundwater modeling conducted for this Draft EIS predicted that without flow augmentation, water levels in the shallow groundwater could drop by less than 1 foot, and surface water could be reduced. However, the Proposed Action contains measures designed to monitor groundwater levels and provide water to augment shallow groundwater and surface water flows in the Big Sandy River sufficient to prevent changes to these hydrologic systems which may otherwise occur as a result of the Project. Therefore, no changes to shallow groundwater levels or surface water flows in the Big Sandy River are predicted as a result of the Project. <p><u>Conclusion:</u> No significant impacts would occur with mitigation consisting of avoiding the Carrow-Stephens Ranches ACEC.</p>	<p><u>Conclusion:</u> At Carrow-Stephens ACEC, significant impact would occur due to removal of native plants, and potential for other significant impacts exists.</p> <p>For Three Rivers Riparian ACEC, same as Proposed Action.</p>	<p><u>Conclusion:</u> Same as Proposed Action</p>	
Vegetation	<p>Power Plant and Associated Facilities</p> <ul style="list-style-type: none"> Construction and operation of the plant and associated facilities would result in the permanent loss of 181 acres of Sonoran desert scrub, previously disturbed by livestock grazing, which would not be a significant impact on a regional level. Loss of xeroriparian vegetation in drainages could result in significant impact, but 	Similar to Proposed Action. Pipeline would involve disturbance of approximately 393 acres, of which 47 acres would remain permanently disturbed. As with Proposed Action, most disturbances would be	Similar to Proposed Action. Pipeline would involve disturbance of approximately 418 acres, of which 45 acres would remain permanently disturbed. As with Proposed Action, most disturbances would be	The loss of vegetation (Sonoran desertscrub) from construction of the production and monitoring well pads and access roads would remain.

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	<p>losses would be replaced through revegetation and reclamation efforts defined in reclamation plan(s). In all areas, measures in the proposed reclamation plan would reduce loss of state-protected plants and may promote re-vegetation of temporary disturbed areas.</p> <ul style="list-style-type: none"> Sites for installation of the optical ground wire (5 acres) would be temporarily disturbed and reclaimed per proposed reclamation plans, which would minimize adverse impacts. <p>Pipeline</p> <ul style="list-style-type: none"> Construction would result in disturbance of approximately 406 acres, of which 48 acres would remain permanently disturbed due to need for access over pipeline. Disturbance of vegetation and xeroriparian vegetation along pipeline would be primarily temporary and would not result in significant impacts, as long as reclamation plans are successful. <p><u>Conclusion:</u> No significant impacts are expected with the implementation of proposed actions and mitigation to reduce or prevent adverse impacts.</p>	<p>temporary and would not result in significant impacts, as long as reclamation plans are successful and no permanent loss of xeroriparian vegetation would occur.</p> <p><u>Conclusion:</u> Same as Proposed Action</p>	<p>temporary and would not result in significant impacts, as long as reclamation plans are successful and no permanent loss of xeroriparian vegetation would occur.</p> <p><u>Conclusion:</u> Same as Proposed Action</p>	
Wetlands, Riparian Areas, and Waters of the United States	<p>Power Plant and Associated Facilities Wetlands and Riparian Areas</p> <ul style="list-style-type: none"> The layout of the Proposed Action would avoid direct impacts to the wetland on the plant site, and implementation of erosion control measures included in the Proposed Action would keep indirect impacts to a low, insignificant level. No long-term impacts are expected. The reduction in flow to Cofer Hot Spring 	Same as Proposed Action, except with approximately 11 acres of direct impact (loss) on waters of the United States for the pipeline route	Same as Proposed Action, except with approximately 6 acres of direct impacts (loss) on waters of the United States	No impacts

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	<p>would dry up a small wetland in that area, resulting in a significant impact.</p> <ul style="list-style-type: none"> The Proposed Action contains measures designed to prevent changes to the wetland/marsh upstream of Granite Gorge in the Big Sandy River. <p><i>Waters of the United States</i></p> <ul style="list-style-type: none"> The combined direct impact on waters of the United States from the proposed power plant and associated facilities would be a loss of approximately 5 acres. There would be no impacts on waters associated with the optical ground wire installation or microwave dish installation. No indirect impacts to downstream waters would be expected with the implementation of the surface water diversions, and erosion and sedimentation control measures included in the Proposed Action. <p>Pipeline <i>Wetlands and Riparian Areas</i></p> <ul style="list-style-type: none"> If trenching is used to cross the Big Sandy River wetland and riparian area, there would be temporary impacts on about 1.4 acres of wetland and riparian vegetation. Proposed erosion and sedimentation control and reclamation measures included in the Proposed Action would reduce impacts to less than significant levels. If the directional drilling option is used, then no impacts would be expected. <p><i>Waters of the United States</i></p> <ul style="list-style-type: none"> Construction of the proposed pipeline would 			

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	<p>result in approximately 8 acres of direct impacts on waters of the United States. Impacts would be on “functions” of these waters discussed in other sections of this Draft EIS.</p> <p><u>Conclusion:</u> Significant impacts would occur because of the loss of the Cofer Hot Spring wetland. Otherwise, impacts to wetlands would be less than significant, with the implementation of proposed actions to reduce or prevent adverse impacts and mitigation.</p>	<p><u>Conclusion:</u> Same as Proposed Action</p>	<p><u>Conclusion:</u> Same as Proposed Action</p>	
Fisheries and Wildlife	<p>All Elements</p> <ul style="list-style-type: none"> Construction and operation activities would result in loss of habitat and some direct mortality of wildlife. The following significant impacts may occur: <ol style="list-style-type: none"> The loss of one active zone-tailed hawk, common black hawk, ferruginous hawk, Swainson’s hawk, or golden eagle nest, or loss of two or more nests of any other raptor species, which would be significant. Preconstruction surveys and the additional mitigation of working around nests and fledging periods would help to reduce the likelihood of theses losses. Mitigation, including habitat management practices to limit bird and other wildlife use of the ponds, use of fences around the ponds, and monitoring programs for waterfowl use and water chemistry would help reduce the potential impacts of wildlife exposure to toxic levels of contaminants in the evaporation ponds to less than significant; 	Same as Proposed Action	Same as Proposed Action, except there would be no or limited short-term impact to aquatic habitat in the Big Sandy from pipeline construction, since the river has no perennial flow at the Alternative T crossing area.	The 26 acres of wildlife habitat already disturbed for construction of the production and monitoring wells constructed for testing the groundwater aquifers would remain.

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	<p>3. Mortality of migratory birds using the evaporation ponds as a result of collision with the nearby transmission lines or from the chemicals used on the agricultural area would be reduced by the implementation of measures to exclude birds from the ponds and/or increase visibility of the transmission lines. However, incidental loss of any migratory bird without a permit would be significant.</p> <p>4. Preconstruction surveys would help identify migratory bird nests, eggs, or nestlings. However, incidental loss of any migratory bird without a permit would be significant.</p> <ul style="list-style-type: none"> • Additional adverse (but less than significant) impacts that would be expected include direct mortality of fossorial mammals and reptiles from construction activities; mortality of small mammals and reptiles that would fall into the pipeline trench or attempt to cross the access road; interruption of breeding or foraging activities of birds and other mammals in proximity to construction activities; interruption of movement of large mammals during construction hours; substrate disturbance and turbidity on fish and other aquatic communities from construction near or in the Big Sandy River; permanent loss of breeding and foraging areas for species that use Arizona Upland vegetation; and long-term loss of habitat • There would be no impacts expected on aquatic species from groundwater withdrawal, and no loss of habitat for riparian species near the plant site would be expected. After reclamation is 			

TABLE 2-9
SUMMARY OF ENVIRONMENTAL CONSEQUENCES BY ALTERNATIVE

Affected Environment	Proposed Action	Alternative R Gas Pipeline Corridor	Alternative T Gas Pipeline Corridor	No Action
	<p>conducted in all temporarily disturbed areas, there should be no long-term impacts on aquatic resources.</p> <p><u>Conclusion:</u> Significant impacts could occur only due to violation of the Migratory Bird Treaty Act, stemming from the accidental collision of birds with transmission lines or disruptional loss of nests.</p>	<p><u>Conclusion:</u> Same as Proposed Action</p>	<p><u>Conclusion:</u> Same as Proposed Action</p>	
Threatened, Endangered, Proposed, and Other Special Status Species	<p>All Elements <i>Southwestern Willow Flycatcher</i></p> <ul style="list-style-type: none"> No direct or indirect impacts at plant site would occur. Groundwater modeling conducted for this Draft EIS predicted that without flow augmentation, water levels in the shallow groundwater could drop by less than 1 foot, and surface water could be reduced. However, the Proposed Action contains measures designed to monitor groundwater levels and provide water to augment shallow groundwater and surface water flows in the Big Sandy River sufficient to prevent changes to these hydrologic systems which may otherwise occur as a result of the Project. Therefore, no changes to shallow groundwater levels or surface water flows in the Big Sandy River are predicted as a result of the Project. Therefore, no impacts on southwestern willow flycatcher habitat from groundwater pumping is expected. Impacts would occur along corridor segment R5 if trenching is used for crossing the Big Sandy River, due to removal of riparian vegetation (a direct habitat loss and an opportunity for increase in brood parasitism by cowbirds). 	Same as Proposed Action	Similar to Proposed Action, except that this alternative does not cross the Big Sandy River in an area of perennial water with associated riparian habitat; therefore, there would be no impacts from construction on southwestern willow flycatcher, and there would be fewer adverse impacts expected on amphibians and fish.	No impacts